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## Notes:

1. Untranslatable words are replaced with asterisks (\*\*\*\*).
2. Texts in the figures are not translated and shown as it is.

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**CLAIM + DETAILED DESCRIPTION**

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**[Claim(s)]**

[Claim 1] In a packaging bag for microwave ovens which has a \*\*\*\*\* part (7) which pastes up the insides of a pair of piled-up packing sheets (3) by a bonded part (11), and an accommodation space part (9) in which a cooked article (A) is accommodated, A steamy passage (25) which is open for free passage to an accommodation space part (9) is formed in said \*\*\*\*\* part (7), and, moreover, [ a bonded part (11) of this \*\*\*\*\* part (7) ] A packaging bag for microwave ovens, wherein a notch part (21) for fracturing a packing sheet (3) towards an edge (7a) that a steamy passage (25) and a steamy outlet (27) open for free passage should be formed is formed.

[Claim 2] A seal part (15) for said bonded part (11) to intercept said steamy passage (25) with the exterior, The packaging bag for microwave ovens according to claim 1 in which it comes to comprise an island-shape seal part (17) which estranged with this seal part (15), and was provided, and comes to form said notch part (21) in this island-shape seal part (17).

[Claim 3] A seal part (15) for said bonded part (11) to intercept said steamy passage (25) with the exterior, Come to comprise an island-shape seal part (17) which estranged with this seal part (15), and was provided, and, [ this island-shape seal part (17) ] The packaging bag for microwave ovens according to claim 1 or 2 which is constituted and as for which an outlet (31) becomes so that it may exfoliate by a pressure increase in an accommodation space part (9) and may be formed, when it cooks by heating without forming a steamy outlet (27).

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**[Detailed Description of the Invention]**

[0001]

[Field of the Invention] The invention in this application relates to the packaging bag for microwave ovens which can accommodate foodstuffs so that it can cook by heating with a microwave oven.

[0002]

[Description of the Prior Art] Since internal pressure will rise with evaporation moisture of a cooked article conventionally at the time of cooking by heating if the cooked article (especially liquefied thing) by which seal packing was carried out with the packaging bag is restricted to the cooking method by warming-in-hot-water heating and a microwave oven is used, there is a possibility that a packing sheet may swell in the shape of a

balloon, and may explode.

[0003]Therefore, when cooking with a microwave oven, the device which misses steam was needed, without carrying out a liquid leak, by the former, the nonreturn valve was attached to the packaging bag, and some packaging bags were cut with scissors there just before cooking.

[0004]

[Problem to be solved by the invention]However, when a nonreturn valve is used, it is not functionally imperfect, and cost becomes high and has not come to spread. There is a possibility that a liquefied cooked article may boil and boil over.

[0005]The \*\*\*\*\* part 7' which pasted up the insides of a pair of piled-up packing sheets 3 by the bonded part 11' as shown in drawing 9. Have the accommodation space part 9' in which a cooked article is accommodated, and the first and second steamy passages 25a' and 25b' which the packing sheet 3' does not paste up on said \*\*\*\*\* part 7' are opened for free passage and established in the accommodation space part 9', The notch 21' which can fracture the packing sheet 3' is formed in superior border 7a' of the \*\*\*\*\* part 7' towards a lower part (accommodation space part 9' side), What is said notch 21' and an opposite position, and formed the cut 22' for stoppers formed in the fracture direction of the \*\*\*\*\* part 7' and the direction which intersects perpendicularly is considered to the second steamy passage 25b'. [ fracturing the packing sheet 3' from the notch 21' beforehand, and opening the end part of second steamy passage 25b' as a steamy outlet, when cooking by heating the cooked article accommodated in this packaging bag ] Since the steam generated by cooking by heating is discharged outside from a steamy outlet via the first and second steamy passages 25a' and 25b', a cooked article can be easily cooked using a microwave oven.

[0006]When the packing sheet 3' is fractured from the notch 21' of superior border 7a' of the \*\*\*\*\* part 7' that this packaging bag should form a steamy outlet, If it is when the power which the direction of a fracture shifts or it fractures is too strong although it is constituted so that the fracture may stop at the cut 22' for stoppers, Even the downward packing sheet 3' and also the packing sheet 3' of the accommodation space part 9' were fractured from the cut 22' for stoppers, and there was a possibility that a cooked article might leak out.

[0007]When a cooked article was cooked by heating, the cooked article advanced into the second steamy passage 25b', steamy passage 25' was blockaded, and there was also a possibility that the bag body 1' might explode with internal pressure. When it cooked by heating without performing the fracture (formation of a steamy outlet) from the notch 21', even if it was, there was also a possibility that the bag body 1' might explode.

[0008]The invention in this application was made in view of the above-mentioned conventional problem, and, [ the first technical problem of the invention in this application ] Can form a steamy outlet easily and, [ the second technical problem ] When cooking by heating with a microwave oven, the steam generated from a cooked article is discharged efficiently, the burst of a bag body can be prevented, and also it is in providing the packaging bag for microwave ovens which can prevent the burst of a bag body, even if it occurs, when the third technical problem has forgotten to be formed [ a steamy outlet ].

[0009]

[Means for solving problem][ the packaging bag for microwave ovens where the invention in this application is made that the first technical problem of the above should be solved and which is applied to the invention in this application ] In the packaging bag for microwave ovens which has the \*\*\*\*\* part 7 which pastes up

the insides of a pair of piled-up packing sheets 3 by the bonded part 11, and the accommodation space part 9 in which the cooked article A is accommodated, The notch part 21 for fracturing the packing sheet 3 towards the edge 7a that the steamy passage 25 which is open for free passage to the accommodation space part 9 is formed, and the steamy passage 25 and the steamy outlet 27 open for free passage should moreover be formed in the bonded part 11 of this \*\*\*\*\* part 7 is formed in said \*\*\*\*\* part 7.

[0010][ the packaging bag for microwave ovens concerning the invention in this application which consists of the above-mentioned composition ] It faces cooking by heating the cooked article A accommodated in the accommodation space part 9, the steamy outlet 27 can be formed by fracturing the packing sheet 3 towards the edge 7a from the notch part 21 of the \*\*\*\*\* part 7 beforehand, and it is the accommodation space part 9. The near packing sheet 3 does not fracture.

[0011]The invention in this application can adopt the composition like the Claim 2 description that the second technical problem of the above should be solved. That is, an invention given in application-concerned Claim 2 comprises the seal seal part 15 for the bonded part 11 to intercept the steamy passage 25 with the exterior, and the island-shape seal part 17 which estranged with this seal seal part 15, and was provided, and said notch part 21 is formed in this island-shape seal part 17.

[0012]If it is in the packaging bag according to claim 2 which consists of this composition and the packing sheet 3 is fractured toward the edge 7a of the \*\*\*\*\* part 7 from the notch part 21 of the island-shape seal part 17, the two steamy outlets 27 will be formed in both sides of the fractured packing sheet 3. Therefore, since steam by cooking by heating of the cooked article A is discharged from each steamy outlet 27 via the steamy passage 25 of both sides of the island-shape seal part 17, Even if the cooked article A flows into the steamy passage 25 and it becomes impossible to discharge steam from one steamy outlet 27, steam can be discharged from the steamy outlet 27 of another side, and a burst of the bag body 1 can be prevented.

[0013]Composition like the Claim 3 description can be used for the invention in this application that the third technical problem of the above should be solved. Namely, the seal seal part 15 for the bonded part 11 to intercept the steamy passage 25 with the exterior in an invention given in application-concerned Claim 3, When it comprises the island-shape seal part 17 which estranged with this seal seal part 15, and was provided and this island-shape seal part 17 cooks by heating, without forming the steamy outlet 27, it is the accommodation space part 9. It is constituted so that it may exfoliate by an inner pressure increase and the outlet 31 may be formed.

[0014]If it is in the packaging bag according to claim 3 which consists of this composition, It is the accommodation space part 9 by steam by cooking by heating of the cooked article A when it forgets to carry out a fracture (formation of the steamy outlet 27) from the notch part 21 and cooks by heating, even if it is., [ that inner pressure rises ] Since the outlet 31 is formed in the island-shape seal part 17 and internal steam is discharged outside from this outlet 31, a burst of the bag body 1 can be prevented.

[0015]

[Mode for carrying out the invention]Hereafter, the 1 embodiment of the invention in this application is described according to Drawings. In drawing 1 thru/or drawing 6, 1 is a bag body for packing the cooked articles A, such as chilled food or frozen food, and, [ this bag body 1 ] Plastic films, such as biaxial drawing polyester and biaxial drawing polyamide, are used as a substrate, and it comprises the packing sheets 3, such as what laminated thermal melting arrival nature resin, such as polyethylene and polypropylene, to the innermost layer. in addition -- as the cooked article A -- broth -- entering Japanese pot-au-feu -- being hung

down and attached -- Nagasaki-style braised pork, \*\*\*\* tofu, and the ingredient of a bowl -- it hangs down, and it is attached and various kinds of foodstuffs, such as roast meat, a curry stew, and soup, are mentioned. However, the bag body shown in drawing 1 thru/drawing 3 shows the packaging bag in the empty state where the cooked article A is not accommodated.

[0016]The bag part 5 by which the circumference was sealed by the shape of a plane view abbreviation rectangle as the packing sheet 3 was folded up so that the thermal melting arrival nature resin layers of an inside may counter, and the bag body 1 which packs said cooked article A showed drawing 1 this bag body 1, A halfway part of this packing sheet 3 is folded up doubly, and it comprises the \*\*\*\*\* part 7 which pastes up the insides of a part which was folded on that occasion and overlapped. In this embodiment, the breadth L1 of the bag part 5 and the \*\*\*\*\* part 7 is 150 mm, the depth L2 of the bag part 5 is 240 mm, and the up-and-down height L3 of the \*\*\*\*\* part 7 is formed in 30 mm.

[0017]When said bag part 5 carries out hot welding of the insides of the packing sheet 3 around the shape of the rectangle, the accommodation space part 9 in which the cooked article A is accommodated is formed in an inside.

[0018]When pressed by the \*\*\*\*\* part 7 with a heat-sealing bar which has a crevice (non seal part), The bonded part 11 which the insides of the packing sheet 3 pasted up, and the non-adhesion part 13 which is not pasted up are formed, and the steamy passage 25 later mentioned by this non-adhesion part 13 will be formed.

[0019]The bonded part 11 of this \*\*\*\*\* part 7 is formed in the both sides of the \*\*\*\*\* part 7, as shown in drawing 3, and the non-adhesion part 13 consists of the exterior, the seal seal part 15 to intercept (seal), and the island-shape seal part 17 which estranged into the central portion of the \*\*\*\*\* part 7 with the seal seal part 15, and was provided in it. The seal of the island-shape seal part 17 is carried out in the state where seal pressure is lower than the seal seal part 15, and it is formed as a weak weak seal part of adhesive strength here as compared with the seal seal part 15.

[0020]The medial border 15a applies said seal seal part 15 to the upper part from a lower part, and it is inclined and provided in the center side.

[0021]The both-sides neighborhood 17a applies said island-shape seal part 17 to the upper side 17c from the lower end 17b, it inclines outside, and is formed in approximately inverse triangle-like shape as a whole, The lower end 17b estranges about (L4) 3 mm with the bag part 5, and the surface 17c estranges about (L5) 5 mm with the superior border 7a of the \*\*\*\*\* part 7, and is provided.

[0022]So that the packing sheet 3 of the \*\*\*\*\* part 7 may be turned to the superior border 7a and can be fractured, [ 21 ] [ by being a notch part of the shape of an abbreviated U character formed in the island-shape seal part 17, grasping the packing sheet 3 (piece 23 of a knob) of this notch part 21, and pulling up ] The packing sheet 3 of the \*\*\*\*\* part 7 can fracture, and the two steamy outlets 27 can be formed above the island-shape seal part 17 like drawing 3 (\*\*). Here, this notch part 21 is formed from the break which penetrates the overlapping packing sheet 3. The flection 21a installed a little towards the side at the upper end is formed, and this notch part 21 is constituted so that it may be easy to grasp the piece 23 of a knob.

[0023]The lower end 21b of this notch part 21 is established in the position estranged about (L6) 3 mm with the lower end 17b of the island-shape seal part 17.

[0024]25 in a figure is a steamy passage which makes the steam generated at the time of cooking by heating of the cooked article A pass to the steamy outlet 27, and this steamy passage 25 is formed so that it

may apply up by the medial border 15a of the seal seal part 15, and the side neighborhood 17a of the island-shape seal part 17 and may become narrow.

[0025]Next, the case where the packaging bag which carried out seal packing of the cooked article A is cooked by heating with a microwave oven to the accommodation space part 9 is explained.

[0026]First, the piece 23 of a knob of the \*\*\*\*\* part 7 has been pulled upwards, and the steamy outlet 27 is formed (drawing 3 (\*\*) reference). It is the accommodation space part 9 when forming this steamy outlet 27 because of what turns the packing sheet 3 of the \*\*\*\*\* part 7 to the superior border 7a, and fractures it by pulling the piece 23 of a knob of the notch part 21 up. The near packing sheet 3 can be prevented from fracturing.

[0027]And when the steamy outlet 27 puts in the bag body 1 by which the opening was carried out in a microwave oven and heats the cooked article A, the fluid of the cooked article A serves as steam, and it is the bag body 1. Inner pressure rises, and the bag body 1 expands, and. Steam will extend the steamy passage 25 and the steamy outlet 27, and will be discharged suitably (refer to drawing 5).

[0028]Since the steamy outlet 27 is in the position which is the upper part of the island-shape seal part 17, and expands, and is the highest even if the cooked article A may boil at the time of this cooking by heating, it has the advantage that the fluid of the cooked article A cannot flow out of the steamy outlet 27 easily.

[0029]Since the steamy outlet 27 is formed in two places and steam is discharged from the steamy outlet 27 of the other side even if the solid of the cooked article A, etc. should go into the steamy outlet 27 or the steamy passage 25 of one side and should blockade, the burst of the bag body 1 by internal pressure can be prevented.

[0030]And if it is in the packaging bag of the above-mentioned embodiment, when you have forgotten formation of the steamy outlet 27 like \*\*\*\* and it cooks within a microwave oven, the pressure in the accommodation space part 9 increases with the steam generated from the cooked article A, and the bag body 1 changes like the drawing 6 (\*\*) (expansion), but. Accommodation space part 9 if inside reaches more than regularity pressure, with the power which is going to change (expansion) of acting on the bag body 1, Packing sheet 3 of the lower end 17b of the island-shape seal part 17 formed as a weak seal part exfoliate, and it is the packing sheet 3 of this part (exfoliation steamy passage 33). Steam passes through between and steam is discharged from the lower end 21b of the notch part 21 (drawing 6 (\*\*) reference). (outlet 31) Especially the power that is going to change of acting on the bag body 1 since the island-shape seal part 17 is formed in the shape of an approximately inverse triangle in this embodiment acts on the lower end 17a of the island-shape seal part 17 easily, and is the packing sheet 3 of this lower end 17a. Comrades exfoliate easily.

[0031]The invention in this application is not limited to the above-mentioned embodiment, and a design variation is arbitrarily free for the shape of the bag body 1 according to the kind of cooked article A. Although what folds up the halfway part of the packing sheet 3 doubly, and forms the \*\*\*\*\* part 7 in the above-mentioned embodiment was explained, As shown in drawing 7 or drawing 8, it may fold up so that the insides of the end of the packing sheet 3 may overlap, and the insides of this end may be pasted up, and the \*\*\*\*\* part 7 may be formed. Bags can also be manufactured by piling up what [ not only ] folds up the packing sheet 3 of one sheet and manufactures bags but the packing sheet of three sheets, and pasting up. Although the above-mentioned embodiment explained what does not paste up the central portion of the superior border 7a of the \*\*\*\*\* part 7, as shown in drawing 7 or drawing 8, the superior border 7a portion of

the \*\*\*\*\* part 7 may also be pasted up.

[0032]In the above-mentioned embodiment, since the notch part 21 was formed in the island-shape seal part 17, the two steamy outlets 27 could be formed, but even if it does not have the island-shape seal part 17, if the notch part 21 is formed in the bonded part 11, it is within the limits which the invention in this application means. Even if it is a case where it has the island-shape seal part 17, it is not indispensable to form the notch part 21 in this island-shape seal part 17, For example, the steamy passage 25 is formed from the first steamy passage 25a which is open for free passage to the accommodation space part 9 as shown in drawing 7, and the second steamy passage 25b installed in the side of the \*\*\*\*\* part 7 from the upper position of this first steamy passage 25a, The packaging bag in which the notch part 21 was formed in the bonded part 11 (seal seal part 15) of the lower part of this second steamy passage 25b is also within the limits which this invention means. If it is in this packaging bag, the packing sheet 3 (piece 23 of a knob) of the notch part 21 is grasped, and it pulls up up, and it is fracturing the packing sheet 3 towards the superior border 7a, the opening of the end part of the second steamy passage 25b is carried out, and the steamy outlet 27 is formed.

[0033]The shape of the notch part 21 is not what is limited to the abbreviation U character shape of the above, It is not what is limited to what is provided so that other shape, such as the shape of a V character and \*\* horseshoe-shaped, can also be adopted and also the packing sheet 3 (piece 23 of a knob) of the notch part 21 can pull up up, either, If the packing sheet 3 can be fractured towards the edge 7a when forming the steamy outlet 27 in short, it will be within the limits which the invention in this application means. Here, the edge of the side of the \*\*\*\*\* part 7 is also included in the edge 7a. It is not required for the fracture of the packing sheet 3 from the notch part 21 to reach to the edge 7a of the \*\*\*\*\* part 7, and for the fractured packing sheet 3 (piece 23 of a knob) to secede from the bag body 1, and if the steamy outlet 27 which a fracture results to the non-adhesion part 13, and is opened for free passage with the steamy passage 25 is formed, it is enough.

[0034]When forming the island-shape seal part 17, even if it is, the shape of the island-shape seal part 17 is not limited to the thing of the above-mentioned embodiment. Also in the case where formation of the steamy outlet 27 is neglected, it is the accommodation space part 9 by forming the island-shape seal part 17 as a weak seal part in the above-mentioned embodiment. Although it has the advantage that exfoliation of packing sheet 3 can carry out easily and certainly by an inner pressure increase, The invention according to claim 3 is not limited to this composition. That is, even if it pastes up the island-shape seal part 17 with the same seal pressure as others and the bonded part 11 (seal seal part 15), without considering it as a weak seal part, it is the accommodation space part 9. If it exfoliates by an inner pressure increase and the outlet 31 is formed, it will be within the limits which the invention according to claim 3 means.

[0035]As shown in drawing 7 or drawing 8, the drilling hole 35 can be drilled in the island-shape seal part 17, and although that by which steam is discharged from the lower end 21b of the notch part 21 as the outlet 31 was explained, it can also constitute from an above-mentioned embodiment so that steam may be discharged from this drilling hole 35. However, it is the packing sheet 3 like the above-mentioned embodiment from the lower end 17b of the island-shape seal part 17 to the notch part 21. It is preferred to constitute so that comrades may exfoliate and the outlet 31 may be formed, While not forming a drilling hole etc. separately by this, the notch part 21 can be formed greatly, and it has the advantage of being easy to grasp the packing sheet 3 (knob part 23) of the notch part 21.

[0036]The concrete shape of the seal seal part 15 of the \*\*\*\*\* part 7 is not what is limited to the thing of the above-mentioned embodiment, either, It is also possible to have a part for the non-adhesion part 16 by which the four quarters were surrounded by the seal seal part 15 that it has pasted up that the steamy passage 25 (non-adhesion part 13) opened for free passage by the accommodation space part 9 should be intercepted with the exterior, and what is necessary is to just be shown in drawing 8.

[0037]

[Effect of the Invention][ as mentioned above the packaging bag for microwave ovens of the invention in this application ] Before cooking by heating, fracture a packing sheet from the notch part of a \*\*\*\*\* part, and a steamy outlet is formed, It can cook by heating with a microwave oven, the fracture of the packing sheet by the side of an accommodation space part can be prevented because of what fractures a packing sheet toward the edge of a \*\*\*\*\* part especially on the occasion of formation of a steamy outlet, and it has the effect easily and that formation of a steamy outlet can be ensured.

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[Translation done.]